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# Does mandatory CSR reporting regulation lead to improved Corporate Social Performance? Evidence from India.

## ABSTRACT

This paper analyses whether mandatory CSR reporting regulation leads to an improvement in corporate social performance. Using a quasi-natural experiment where the Stock Exchange Board of India mandated all companies listed on the Bombay Stock Exchange to disclose their CSR activities and practices, this paper finds that companies significantly improved in all aspects of Environment, Social, and Governance performances. However, governance and social performance improvements were significantly greater than environment performance, which is attributed to the stakeholder salience typology. Potential harm from definitive, dominant and dangerous stakeholders was given greater consideration by management, which improved governance and social performances accordingly.

**Keywords:** Firm Self-Regulation, Government Regulation, Corporate Social Responsibility, Strategy and Business Strategy

## INTRODUCTION

Public-listed companies are mandated to meet certain criteria in terms of their governance policies to protect the interests of shareholders. Other than shareholders, a typical public-listed company bears a relationship with its employees, consumers, the media, and the public in general. These stakeholders may have an explicit or implicit contract with the company, since corporate actions have a direct or indirect effect on their well-being (Freeman (1984)). To protect the interests of such stakeholders, governments and stock exchanges in several developed as well as emerging economies have been incentivizing and pressuring companies into acting in socially- and environmentally-friendly ways, typically through mandatory disclosure of Corporate Social Responsibility (CSR) or Environment-Social-Governance (ESG) activities and policies. In other words, some governments and stock exchanges want companies to publicly disclose their social and environmental policies that, amongst other things, seek to mitigate any negative externalities that they may be causing. Ioannou and Serafeim (2014) find that corporations increased disclosure following mandatory reporting requirements in their respective jurisdictions, which suggests greater transparency and conforming with globally-accepted norms in CSR. What remains to be seen is whether increased disclosure is actually accompanied with improved social performance, i.e. are companies “walking the talk” and actually acting in more pro-social manners on top of disclosing or branding themselves as such?

In this paper, I address a couple of important questions about the impact of mandatory CSR disclosure requirements on Corporate Social Performance (CSP).<sup>1</sup> First, do mandatory disclosure requirements push companies to actually improve social performance side-by-side with disclosing pro-ESG policies which may or may not be an entirely truthful depiction of their social endeavours? Baron (2010) suggests that when firms are in the spotlight and have a weak incentive to resist stakeholder claims, they become soft targets (to the public and the media) and they will act in pro-social ways to insure themselves against bad publicity (Gomez and Verma (2012)). Does this occur under mandatory CSR disclosure legislation/regulation? Second, while performance may increase in all aspects of ESG following disclosure requirements, are there specific areas that companies focus on more than others in light of the fact that CSP has an opportunity cost in terms of time and management? The salience theory of stakeholder identification (Mitchell et al. (1997)) would suggest that, *ceteris paribus*, companies would progressively focus their attention on those aspects of ESG that are important to their most salient (and direct) stakeholders. Third,

what effect would increased social performance resulting from mandatory CSR disclosure have on firm performance and firm value? The latter has been a ubiquitous topic in the CSR literature wherein scholars try to relate CSR to financial performance (for a literature review see Margolis and Walsh (2003); Aguinis and Glavas (2012)).

This paper attempts to answer these questions by examining the impact of mandatory CSR disclosure requirements in India, using data from Sustainalytics, a global agency and leader on corporate sustainability. I focus on this setting on India, in particular, for the following reasons. First, extant literature (e.g. Dehejia and Samy (2004); Kitzmueller and Shamshack (2012)) suggests that firms in developed economies perform better on social responsibility relative to their peers from emerging or developing economies. By drawing attention to government regulation in one major emerging economy, this paper satisfies two objectives: 1) show that policy or regulatory intervention can help drive global sustainability, 2) show that firms in emerging economies are no laggards anymore; they can also improve their social performance under the right incentives within their national business systems. Second, while previous work by Ioannou and Serafeim (2014) focuses on extent of disclosure in developed as well as emerging economies following mandatory CSR regulation, this paper adds in actual social performance data from a reputable agency that collects information from various sources and stakeholders. While most CSR data (e.g. Bloomberg, Thomson Reuters Asset4, and even Sustainalytics) comes from individual company disclosure, there are some items in each of the ESG categories that are vetted from NGOs, the press, and outside stakeholder reports. Such items also tend to be more objective in nature (e.g. has the company suffered from an environmental controversy in this period?) as opposed to disclosure which are more subjective (e.g. does the company have a policy on  $CO_2$  emissions?). Third, India is one country which regulated mandatory disclosure of ESG policies in systematic way where there was an announcement, a moratorium period to react to the regulation thereafter followed by the start of the regulation one year after the announcement. Other countries from the BRICS (Brazil, Russia, India, China and South Africa) group, in particular Brazil and South Africa, have enacted similar legislation or regulation but on a comply-or-explain basis. That is, companies can comply with CSR disclosure legislation/regulation or they have a way out where they can explain why they are not disclosing (Visser (2014)). India, therefore, represents a setting where announcement effects can be measured in light of the fact that disclosure is actually mandatory and not “optional”. I collect and analyze panel data on CSP for Indian firms both before and after mandatory CSR regulation is levied there.

Methodologically, I first use propensity score matching and apply the algorithm proposed by Dehejia and Wahba (1995, 2002) to create covariate balance between treated firms and untreated firms in my data. The untreated firms are companies listed on the main stock exchanges of the United States (NYSE, Nasdaq, and AMEX). Then, I use difference-in-differences (DD) models with inverse probability weighting based on the propensity scores to estimate the treatment effect of mandatory CSR disclosure on Environment-Social-Governance outcomes. This method is especially important because many companies have voluntarily increased disclosure (and with it improved social performance) with time. This approach allows me to compare treated firms with their untreated “likes” and tease out the treatment effect of mandatory disclosure on social performance. Overall, the introduction of mandatory CSR reporting regulation has led to an improvement of 30% in Corporate Social Performance scores. This treatment effect is persistent whereby firms maintain higher performance following the disclosure requirements, implying a learning and/or benefiting effect to improving CSP. The more striking results are that the highest improvement in performance due to mandatory regulation happen in the governance aspect of ESG (30%), followed by the social portion (20%), while improvements in environment are smaller (10%). These results are not due to the content of the legislation/regulation, i.e. there is no specific clause pushing the governance disclosure and performance more than the other dimensions. Rather, the regulation in India attempts to promote all three dimensions of ESG equally. The results of this paper suggest that firms focus on the governance and social dimensions the most.

Given that the mandatory CSR disclosure requirements did not specifically target governance disclosure and performance, I explore a few mechanisms to explain why it got the highest boost in performance followed closely by the social dimension. My results seem to point to the observation that while environmental performance affects the broadest group of stakeholders, these stakeholders are diverse and split and do not directly affect and are not directly affected by the firm’s actions. Governance and social performance, on the other hand, are intricately related to the interests and needs of shareholders, regulators, potential investors, employees, community activists: stakeholders who can directly impact an organization’s functioning. Not “walking the talk” with regards to such stakeholders would garner the most widespread negative attention, bad image, and potential negative (operational) consequences. My results, therefore, support hypotheses that would result from image/branding theory and from the theory of stakeholder identification and salience. Corporations respond to incentives, and the bigger incentive is to prioritize the needs of those stakeholders who can most affect their goodwill and reputation, either in a

positive or in a negative way, as opposed to generalist stakeholders (e.g. environmentalists) who are more distant.

This paper belongs to the long stream of research in corporate social responsibility (Margolis and Walsh (2003)). It also adds to the literature on the impact of disclosure requirements in matters of corporate governance (Chhaochharia and Grinstein (2009)) and ESG disclosures (Iaonnou and Serafeim (2014)). Whereas the latter study looked at corporate disclosure improvements following mandatory legislation/regulation, this paper is the first to discern between disclosure and performance. The results suggest that, post mandatory disclosure requirements, firms feel like they are soft targets and insure themselves against potential future negative press by improving social performance along with improvements in policy and program disclosures. In general, this paper belongs to the broad literature pertaining to incentives and strategic management. The results do point to the fact that firms strategically manage their resources to suit those needs that are most pressing under financial, time, and other constraints.

From a public policy perspective, this paper contributes to the line of research that deals with government intervention through legislation/regulation of corporate practices. While the results pertain to India only, this paper suggests that governments can actively push companies into acting in a more socially responsible manner. A win-win situation generating positive externalities is possible through legislation/regulation that is well timed, well executed, mandated, and enforced. Companies respond to incentives, and in the Indian case, they did so remarkably. This paper further shows that emerging economies have taken a lead when it comes to social responsibility, and India has surpassed the United States in terms of social performance and social responsibility.

## **THEORETICAL BACKGROUND**

### **Value of CSP for firms under conditions of social pressure**

Several definitions of CSR and CSP have emerged in the literature over the last couple of decades. However, one of the most commonly used definitions of CSR is that it is “the commitment of a business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life” (WBCSD (1998)). One of the key words in this definition is *commitment*. Other definitions often point to some moral obligation of a company to meet

some needs of non-shareholding stakeholders. CSP, on the other hand, is the measure of the organization's attempt to meet its social responsibilities at a given point in time. CSP is defined as “a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's social relationships” ((Wood, 1991, p.393)). Further, Baron (2010) distinguishes between CSR and CSP by arguing that CSR involves a moral duty whereas CSP need not arise from moral responsibilities. According to Baron, CSP needs to satisfy two conditions: 1) the activities of the firm go beyond the requirements of the law and regulation, and 2) the activities involve some private provision of public goods or private redistribution.<sup>2</sup>

In order to understand why a company would improve its ESG standings following disclosure requirements, I will rely on a theory proposed by Baron (2007, 2008, 2009) in which financial operations as well as social endeavours are jointly determined by firms that may face social pressure from governments, institutional investors, or other activists. While the theory proposes a general equilibrium which models the choices by the firms, activists, and consumers, this paper will only look at a partial equilibrium situation where only the firms' actions are modeled and hence determined. The theory does incorporate potential rewards from consumers, employees, investors, and other stakeholders but does not distinguish between the effects of each group upon the firm's performance. As such, it would be beyond the aims of this paper to work a general equilibrium model.

Consider a capital market where firms are trading. Citizens (or investors) can trade shares freely, and they can also personally give to social causes. However, they have a choice to outsource such personal giving by investing in firms that are high in CSP. As such, the theory, as proposed by Baron (2009), allows us to price the firm's social activities in the market, as in Graff-Zivin and Small (2005). The market value (MV) of any firm trading in that capital market can be given by:

$$MV_i(O_i, C_i | S_i) = \pi_i(O_i, C_i, S_i) - C_i - H_i(S_i, C_i) + \rho C_i \quad (1)$$

where  $\pi_i$  is the cash flow resulting from operation  $O_i$  of the firm, its CSP( $C_i$ ), and social pressure  $S_i$  from government legislation/regulation, and activist demands.  $H_i(S_i, C_i)$  is the harm to the firm from social pressure but this can be mitigated by appropriate levels of  $C_i$ , and  $\rho C_i$  is the capital market premium for the social performance of the firm where  $\rho$  is the marginal rate of substitution of CSP for individual social endeavours (in particular philanthropy).

In the context of this paper,  $S_i$  refers to government regulation, but this will be discussed in detail in the next section. For now, it can be regarded in its theoretical sense of social pressure levied by governments, citizens, and/or NGOs.  $H_i(S_i, C_i)$  could, for example, be NGOs pointing out how a firm does not manage its supply-chain operations. Such harm can have negative impacts on the firm's value, as in the Nike case, where questions about their supply chains' use of child labour in Asian countries led to a massive outrage, subsequent to which Nike had to make amends (Roberts (2003)).

A value-maximizing firm chooses  $O_i$  and  $C_i$ , given  $S_i$  to maximize  $MV_i$ . If  $O_i^*(C_i)$  denotes the optimal  $O_i$  as a function of  $C_i$  and  $C_i^*$  denotes the optimal  $C_i$ , the market value of firm  $i$  is  $MV_i^*(O_i^*(C_i^*), C_i^* | S_i)$

Based on equation 1, we can calculate the cross-sectional relation among firms in the market and it is given as follows:

$$MV^*(C^* | S) = \pi(O^*, C^* | S) - (1 - \rho)C^* - H(S, C^*) \quad (2)$$

Differentiating with respect to  $C^*$  gives us the social market line (i.e. the effect of CSP on Market Value):

$$\frac{dMV^*(C^* | \hat{S})}{dC^*} = \frac{d\pi}{dC^*} - (1 - \rho) - \left( \frac{\partial \pi}{\partial S} - \frac{\partial H}{\partial S} \right) \frac{d\hat{S}}{dC^*} \quad (3)$$

Baron et al. (2009) interprets the above as follows. Suppose that CSP does not affect profits nor does it mitigate the harm done by social pressure. In that case, the slope of the social market line is  $-(1 - \rho)$ . In such a case, if investors view CSP as a perfect substitute for their own social philanthropy, then  $\rho = 1$  and the social market line is a constant. CSP does not generate any benefit. If, however, CSP is an inferior (superior) substitute for personal giving, then  $\rho < (>)1$  and the social market line has a negative (positive) slope. That is, CSP will lead to higher market values if, for instance, investors are willing to pay a premium for such companies in exchange for some extent of personal giving and/or other altruistic/ethical behaviour (e.g. Sharia-compliant investing, social investments etc.).

## Soft Targets

There are multiple hypotheses that can explain the above result where CSP affects market value, and in particular when it acts as a response to social pressure. First, consumers may be willing to reward high CSP firms. Hiscox and Smyth (2011); Elfenbein and McManus (2007); Casadeus-Masanell et al. (2009) carried out some studies indicating that consumers are willing to pay a premium for private goods that satisfy some



“fair trade/fair label” categorization. CSP thus acts as a complement or substitute to advertising and branding.

Investors may also value the social activities of a firm. Heinkle et al. (2001) show that green investors (ethical investors/Sharia-friendly investors/institutional investors) could be willing to pay a premium for companies that are high in CSP. In fact, in the UK, some pension funds can only invest in companies that meet some social responsibility criteria (Friedman and Miles (2001)).

Employees are another group of stakeholders, who can demonstrate the benefits of CSP. Firms may be able to attract and/or retain the most productive workers if the latter value CSP. Flammer (2015) finds that companies that are mandated to have a CSR policy are able to attract better workers and increase productivity.

The above parties (consumers, investors, employees) can reward a company for its CSP. However, they are not, per se, related to social pressure. In other words, a company may strategically invest in CSR such that it can target such consumers, investors, and employees. Such type of CSP is often referred to in the literature as “strategic CSP”. For the purposes of this paper, it does not matter so much whether CSP is strategic or not; rather, it is certainly interesting to note that any CSP improvement can occur under the right incentives.

Managers can also undertake social activities to build their own reputation if they have moral warm glow, or altruistic preferences. In case where there is social pressure to meet a minimum ESG requirement (such as mandated in a legislation/regulation), managers can go beyond the set minimum to enjoy accolades from government officials, agencies, NGOs, and other stakeholders who may directly or indirectly affect the firm. Cespa and Cestone (2007) find that managers often give to social groups, which then glorify the managers and help them achieve higher job security. One would assume that such type of high CSP would come at a cost, and managers may not be able to act according to their complete discretion if the governance structure of the firm is sound. As such, since governance is one aspect of ESG, it would be interesting to see whether under social pressure, managers allocate more to social and environmental performances, or accept governance improvements which would reduce managerial entrenchment.

Baron (2009) brings in another idea with respect to firms setting their levels of CSP. The idea emanates from a real case scenario as outlined in Argenti (2004, p.110-111). The activist organization Global Exchange decided to target Starbucks to sell Fair Trade Coffee. The question is why did Global Exchange target Starbucks, rather than other large companies in the same industry which were also not selling Fair

Trade Coffee? One hypothesis is that Starbucks is a soft target. Starbucks is a better target for the fair trade issue because of its own emphasis on social responsibility. In other words, it brands itself as a socially responsible company, which places it under heavier scrutiny by government agencies, NGOs and other activists. In light of mandatory government regulation, all companies that are affected have the potential to become soft targets. Given that they have to disclose their ESG practices, they would (perhaps for managerial perquisites and/or strategic reasons) disclose only the best information about their CSR policy. In other words, they would make themselves soft targets by publicizing the good that they do, and minimizing the bad (or leaving it out altogether). As such, they would have the least incentives to resist activist demands, and would, along with higher disclosure, improve their CSP and meet government and activist demands for social performance.

The soft target hypothesis also aligns with the insurance hypothesis whereby firms would invest in high CSP today in order to mitigate the damage that could ensue from a potential future controversy. This works as the  $H_i(S_i, C_i)$  in equation 1.

### **Stakeholder identification and salience**

Stakeholder theory has become embedded in management scholarship and in management's thinking since Freeman (1984) published his landmark book, *Strategic Management: A Stakeholder Approach*. However, the debate is still ongoing with regards to what Freeman (1984) calls "The Principle of Who or What Really Counts". In other words, under competing demands from different stakeholder groups, to whom do managers pay attention? As mentioned in Mitchell et al. (1997), this question points to a theory of stakeholder salience, whereby certain stakeholders stand out in terms of importance. This is relevant to the current discussion of social pressure being levied through government regulation. When the government mandates a company to disclose its CSR policies with regards to environment, social, and governance activities, and knowing that social pressure from NGOs and activists will probably ensue upon such disclosure, do managers pay particular attention to certain groups of stakeholders over others, or do their actions simply come from a moral generic standing?

What constitutes a stakeholder? This paper will not go into the whole literature about what or who constitutes a relevant stakeholder group (see Mitchell et al. (1997) for a detailed review). Rather, it will focus on some of the major discussions that still interest scholars in the matter of stakeholder theory. While (Freeman, 1984, p.46) defined a stakeholder simply as "any group or individual who can affect or is

affected by the achievement of the organization's objectives", this definition is seen as rather broad and scholars such as Clarkson (1994) prefer a narrower definition of stakeholder. He differentiates between voluntary and involuntary stakeholders in the following manner: "Voluntary stakeholders bear some form of risk as a result of having invested some form of capital, human or financial, something of value, in a firm. Involuntary stakeholders are placed at risk as a result of a firm's activities. But without the element of risk, there is no stake"((Clarkson, 1994, p.5)). In other words, one of the major differences that results from such definitions of stakeholder is that under the broad definition, any stakeholder may have a legitimate claim on the company as long as it is affected by the organization's objectives. Under the narrower definition, claims are legitimate only if there is a risk of being affected.

Further, scholars who study stakeholder theory prefer to focus on the nature of the relationship between the firm and the said stakeholder. Some definitions focus on the firm's dependency on stakeholders for its survival while others focus on the stakeholder's dependency on the firm for upholding its rights, minimizing harms, or achieving its interest. As pointed out in (Mitchell et al., 1997, p.863), "power and legitimacy are necessarily core attributes of a comprehensive stakeholder identification model...when these attributes are evaluated in light of the compelling demands of urgency, a systematic, comprehensive, and dynamic model is the result".

Mitchell et al. (1997), therefore, argue that stakeholder salience rests upon three attributes: power, legitimacy, and urgency. Low salience classes of stakeholders, which are also termed "latent" stakeholders, hold only one of those attributes. Moderately salient stakeholders hold any two of these attributes, while highly salient stakeholders hold all three of those attributes. They further subdivide these groups into the following: latent stakeholders include dormant, discretionary, and demanding stakeholder; moderately salient stakeholders (also known as expectant stakeholders) include dominant, dependent, and dangerous stakeholders. Definitive stakeholders are those highly salient stakeholders who possess all three attributes of power, legitimacy, and urgency. This typology of stakeholders is presented in Figure 1.

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Insert FIGURE 1 about here.

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Dormant stakeholders have power, but they do not have a legitimate relationship or urgent claim. As such, their potential power remains unused. An example of a dormant stakeholder is one who can command the attention of the news media (symbolic). Dormant stakeholders have very little or no interaction with a firm,

but if they acquire a second attribute (be it urgency or legitimacy), they will become more salient to managers. Examples of dormant stakeholders include ex-employees who may use their “voice” to bring to light certain secrets or behind-the-veil activities of a company. Environmentalists can also be dormant stakeholders, assuming they have no legitimacy and urgency at a given point in time.

Discretionary stakeholders possess the attribute of legitimacy but have no power on the firm and no urgent claims. They are often the recipients of corporate philanthropy (Carroll (1991)) even though they hold limited interaction with the firm. Examples include schools, soup kitchens, and hospitals which receive donations and volunteer labour from companies that choose to do so. Social actors can, therefore, be counted as discretionary stakeholders.

Mitchell et al. (1997) describe demanding stakeholders as “mosquitoes in the ears” since they represent stakeholders who have urgent claims without any power and legitimacy over the firm. They are not yet dangerous since they do not have any power nor legitimacy over the firm. As such, the above three categories represent latent stakeholders, who have only one of the three attributes of power, legitimacy, and urgency.

Expectant stakeholders are subdivided into three categories. The first is a dominant stakeholder, i.e. one who is both powerful and legitimate. As Mitchell et al. (1997) put it, dominant stakeholders will have some formal mechanism in place that acknowledges the importance of their relationship with the firm. Examples will include the corporate board of Directors, a HR department acknowledging the important employer-employee relationship, a Public affairs office maintaining good relationships with government officials. Annual reports, proxy statements, and CSR reports are examples of the legitimacy of the relationship that companies have with such (potentially) powerful stakeholders.

Dependent stakeholders are those who lack power but who have urgent and legitimate claims. For example, in the oil spill from Exxon Valdez in Prince William Sounds, several stakeholder groups had legitimate and urgent claims but had no power to influence the firm. Starik (1993) concluded that local residents, environmentalists had to rely on the benevolence of the managers and on other powerful stakeholder groups in order to have their grievances heard and compensated.

Dangerous stakeholders are those who lack legitimacy but who may use “coercive” power to advance what they perceive to be urgent claims. Examples include wildcat strikes, employee sabotage, kidnappings, and terrorism. While these are indeed dangerous situations, they usually cannot be predicted. However, the key to sound management is to identify such groups and deal with them before they act.

As opposed to the above, definitive stakeholders are those who possess all three attributes of power, legitimacy, and urgency. By definition, a stakeholder with power and legitimacy is already a member of firm's dominant coalition. If such a stakeholder's claim is urgent (i.e. when the stakeholder moves from dominant to definitive), then managers have a clear mandate to address such concerns in the shortest span of time and with excellence. For example, in 1993, when stockholders (dominant stakeholders) of several American companies became concerned that management was not looking in their best interests, they became active and eventually a sense of urgency was declared when their stock values plummeted. Management in these American companies were eventually removed because their response was deemed insufficient. As such, stockholders can be a very influential group when they become active. Management is always aware of this relationship.

What does this all mean with regards to ESG standings following mandatory CSR regulation? In light of the aforementioned theories, the following would provide a good summary. First, CSP or ESG can be subdivided into three groups: Environment, Social, and Governance.<sup>3</sup> Stakeholders would prefer that the company improves its performance in each of the three categories that make up ESG. And indeed, that is the expectation from the soft target and social pressure hypotheses, where firms having to disclose information will improve their CSP to insure themselves against harm, and/or improve their branding (or managerial reputation), while potentially attracting consumers, employees, and investors who value CSP over and above their own personal giving.

With regards to stakeholder identification and salience theory, we can posit the following. Managers will not give the same attention to each aspect of ESG. To tie this to equation 1, this means that there are different levels of harm  $H_i(S_i, C_i)$  that different stakeholders can levy on the company. In other words,  $H_i(S_i, C_i)$  can be decomposed into  $H_{iENV}(S_i, C_i)$  plus  $H_{iSOC}(S_i, C_i)$  plus  $H_{iGOV}(S_i, C_i)$ . This decomposition can be carried forward to the social market line in equation 3, where  $\frac{\partial H}{\partial S}$  will be decomposed accordingly. To counter the greater potential harm that may ensue from definitive, dangerous, and dominant stakeholders, companies will have to improve their CSP in particular towards these more "harmful" stakeholders. The model is only showing a partial equilibrium that seeks to inform about the firm's action in light of these differential pressures and potential harmful effects. With the potential harm from investors being very high ( $H_{iGOV}(S_i, C_i)$ ), governance will be given higher priority because they are matters that can be brought to immediate concern by definitive stakeholders. At the very least, they are matters that concern dominant stakeholders, who may or may not see urgency in their claims to the firm. Social matters

typically concern employees, local groups who have some level of interaction with the firm etc. They also concern public policy officials. As such, these matters may also concern a sect of dominant stakeholders and will receive quite a bit of attention by managers. Perhaps not as much as governance, but nonetheless very close. Environment issues, on the other hand, are more of a “tragedy of the commons” issue. It is difficult to pinpoint exactly who is at fault for climate change and the slow degradation of the environment. It is only through major accidents (e.g. BP oil spill in the gulf of Mexico in 2012) that a particular company gets pinpoint negative publicity. Even in such cases, the stakeholder typology suggests that stakeholders who will affect the company are either dependent, dormant, demanding, or discretionary stakeholders. In the BP oil case, this was certainly true where BP had to communicate to its key environmental stakeholders that it was spending heavily to mitigate the damages caused by the spill (Du and Viera-Jr. (2012)).

Therefore, while I expect that mandatory disclosure will make firms improve their CSP because of managerial perquisites and because of the soft target hypothesis, companies will focus most of their attention to governance first, followed by social, and then by environment.

## **FIELD SETTING**

The context of this study is the Bombay Stock Exchange (BSE) 100, which is the index of the 100 most valuable companies, by market capitalization, trading in India. India is part of the BRICS group, and while other countries from the group (in particular Brazil and South Africa) enacted CSR reporting legislation/regulation, the latter are, till today, applied on a apply-or-explain basis (see Visser (2014); Pinto (2011)), i.e. companies may opt out of disclosure if they convince regulators. India is an interesting country because they have followed a similar path but decided to mandate disclosure given that the apply-or-explain basis yielded only 21 firms disclosing ESG practices (IIPC (2012)). This is certainly akin to taking leadership on CSR issues, given that developing countries in general have been laggards as opposed to developed countries on ESG activities and policies. Following the mandated regulation in India, all companies on the BSE 100 disclosed their CSR policies. While there are financial sanctions against companies that do not disclose (IIPC (2012)), it is not clear how enforceable these are. Further, there have been no reports of any sanction since the regulation was levied. Regardless, the focus of this paper is whether firms improved performance when they had to disclose, and not whether other actors are observedly pressurizing firms into more prosocial actions.

To this author's knowledge, there is only one paper that has looked at the effect of mandatory CSR reporting. Ioannou and Serafeim (2014) consider four countries: China, Denmark, Malaysia, and South Africa. These countries had enacted some form of CSR disclosure through their legislative channels or through the regulatory channels of their Stock Exchange Commissions. Ioannou and Serafeim (2014) find that firms in China and South Africa increase ESG disclosure significantly after their respective regulations relative to control firms. However, Danish firms and Malaysian firms exhibited no such increase. The differential response in terms of disclosure is attributed to South Africa requiring more integrated reporting than Danish firms which required only sustainability reporting. China's CSR reporting was framed under economic considerations (i.e. complying firms would benefit) whereas the focus of CSR reporting in Malaysia was only on philanthropy, and not the broader ESG issues. What is also important to note here is that Ioannou and Serafeim (2014) focus on extent of *disclosure*, whereas this paper looks at social *performance*, based on the aforementioned theories and hypotheses. While the two are related, there is a difference between disclosure and performance. Disclosure can be branding/managerial reputation only, whereas performance can be verified via stakeholder reports and other data.

In India, the CSR story started with the National Voluntary Guidelines for Social, Economic and Environmental Responsibilities of Businesses (NVG-SEE). Released by the Ministry of Corporate Affairs in July 2010, these Guidelines attempted to "develop the policy framework to drive disclosure, which marries the regional challenges with the global need for flexibility". This flexibility was important in the first stage (and it indeed has precedent in Brazil and South Africa): this slow voluntary uptake allows institutions to adapt to the new realities of doing business. As a result, voluntarily ESG disclosure slowly gained acceptance but the disclosure figures remained low. "cKinetics analyzed voluntary ESG disclosure of the 100 largest firms (by market cap) listed on the Bombay Stock Exchange (BSE) years 2009-2012 and found only 21 firms had produced third party assured sustainability reports." (IIPC (2012)).

Given the slower than expected uptake in ESG disclosure, the Securities and Exchange Board of India (SEBI) mandated ESG disclosures in November 2011. All top 100 firms (by market cap) listed on the BSE would have to disclose their ESG activities and policies by December 31 2012. In other words, the law was announced in November 2011, and after a moratorium period, it would kick into effect on January 1 2013. This now represents true social pressure in the theoretical sense because firms have no way to circumvent the law since there is no apply-or-explain loophole anymore. More importantly, they have a reasonable window to adapt and make their operations more sustainable. This situation represents a clear policy

intervention whose effects can be studied in light of the aforementioned theories and hypotheses. SEBI could use its various powers to punish firms that did not disclose their CSR practices. The penalties would be similar to penalties pertaining to non-disclosure of financial information. In other words, ESG disclosure was a mandatory add-on to the already existing guidelines on financial disclosure.

## **EMPIRICAL STRATEGY**

### **Data**

The ESG data for this study were provided directly by SustainAlytics, a global leader in sustainability reporting and ESG metrics. It has offices in over 10 countries around the World, and provides ESG data to investors and NGOs in addition to providing information for social indices such as the Jantzi Social Index in Canada. While most of their information comes from corporate disclosures, there are some items which are more objective in nature and are counter-verified with NGOs and other stakeholders. In particular, it collects and verifies ESG information for companies headquartered in India and those that trade on the BSE 100. The data has been standardized across countries and provide monthly ESG ratings for over 16000 entities for the years 2010-2013, making before-and-after comparisons possible for India which mandated CSR disclosures in November 2011 and effective since January 2013.

ESG data is divided into its three components and each component is then further subdivided into several subcomponent (see Figure 2 for the categories employed by SustainAlytics). Within each subcomponent, certain items relate to the company's policies and activities (which may or may not be disclosed), while others are more generic. For example, in the business ethics subcomponent of governance, a disclosure item would be "The quality of the company's policy to combat bribery and corruption", whereas a performance item would be "Is there external oversight of the company's CSR report and what are the conclusions?". While the disclosure item can be also interpreted as a performance item given that the company is scored accordingly, I refrain from using such items for my performance data. This is because the source of the information is through the company disclosure (which may or may not be a true depiction of its social performances). As such, if a company does not disclose, it may receive a median score or a score of zero, both of which are biased. I have selected only those aspects of the ESG data from SustainAlytics which do not suffer from this dependency on corporate disclosure. Each item is scored out of 100, whereby best performance is 100, next best would be 75 or 50, and so on until the



company scores 0 for an item where it fails considerably. This data and procedure of separating disclosure from performance has been adapted from Buchanan (2015).

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Insert FIGURE 2 about here.

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After sorting the items, I place them in their appropriate baskets of Environment, Social, or Governance components of CSP. Each component is then totaled for each company  $i$  at time  $t$ . Since these scores are heavily tilted in terms of industry dependence (e.g. oil companies will be lower in terms of environment scores as opposed to technological companies), relative standardized scores are then calculated for each component of ESG with respect to an industry  $j$  benchmark at time  $t$ .

$$RelESGscore_{it} = \frac{ESGTotal_{it} - Min(ESGTotal_{jt})}{Max(ESGTotal_{jt}) - Min(ESGTotal_{jt})} \quad (4)$$

where ESG is any *one* of Environment (ENV), Social (SOC), or Governance (GOV).

Financial data (which are heavily correlated with Corporate Social Performance) are obtained from Thomson Reuters DataStream database. In particular, the items used are size (market capitalization), profitability (return on assets), opportunistic value of firm (calculated as Tobin's Q), liquidity (calculated as quick ratio).

### Identification Strategy

A difference-in-difference (DD) design is used to estimate the impact of mandatory CSR reporting on CSP. This is important because the DD design “differences out” variations not related to the passage of time, especially because multiple companies might have adopted voluntary disclosure over time and this effect needs to be removed in order to tease out the appropriate effect of the policy intervention on CSP. The DD design relies on having a valid counterfactual group pre-intervention: i.e. a group that is similar to the Indian companies except for the policy intervention. Moreover, the common trends assumption needs to be validated whereby, pre-intervention, treated and untreated companies exhibit similar (or parallel) trends in ESG scores. The ideal control group would probably have been Indian firms that are just outside the BSE 100, i.e. firms that fall just below the rank of the top 100 Indian companies. However, due to lack of data, I do not have such a sample. As a result, I will rely on firms on the MSCI World Index from the United

States and will create a sample from this larger pool of companies that are closest in terms of observables to the Indian companies in question. This technique is called propensity score matching, and it has been used in several studies, especially pertaining to policy interventions (e.g Campolieti et al. (2014); Iannou and Serafeim (2014)).<sup>4</sup>

With regards to propensity score matching, I specifically match Indian firms with US firms in the quarter preceding the policy intervention. I match on firm size (log of market cap), profitability (return on equity), liquidity (quick ratio), market expectations about growth opportunities (Tobin's Q), and ESG scores. Propensity score matching is used as a means to achieving greater covariate balance between treated and untreated firms, especially with regards to the aforementioned explanatory variables (i.e. except for ESG scores). However, unlike Iannou and Serafeim (2014) I use the propensity scores to later calculate inverted probability weights that will be used in the DD specifications later. Finding the “right” model to calculate propensity scores is a trial and error process. I use the algorithm by Dehejia and Wahba (1995). This process involves manually specifying and checking the propensity scores to ensure balance. While the final specification achieves balance, getting to that specification required a series of modifications to the model. In particular, Dehejia and Wahba (1995) proposes to add some higher order polynomials and interaction terms until balance is achieved. Starting with simple linear models, I added an interaction term which was sufficient to achieve balance. The final specification for propensity score matching is given in equation 5 and is estimated according to a probit model:

$$Treatment_i = \alpha + \beta_1 Size_i + \beta_2 ROE_i + \beta_3 QuickRatio_i + \beta_4 (ROE_i \times QuickRatio_i) + \beta_5 Tobin's Q_i + \beta_6 RelENVscore_i + \beta_7 RelSOCscore_i + \beta_8 RelGOVscore_i \quad (5)$$

All Indian firms get a treatment value of 1; US firms get a value of 0 since they are not covered by the regulation.  $RelESGscore_i$  where ESG can be one of the pre-intervention relative Environment, Social or Governance scores. The results of the model are shown in Table 1.

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Insert TABLE 1 about here.

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The coefficients from Table 1 are then used to calculate propensity scores for all firms in the sample. These propensity scores are summarized in the histogram per Figure 3

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Insert FIGURE 3 about here.

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The left panel of Figure 3 denotes the propensity scores for the US firms, whereas the right panel denotes the propensity scores for India. What matters here is common support, i.e. the propensity scores that work and that have observations for both control and treatment groups. The command *pscore* in STATA denoted the region of common support to be between 0.0185 to 0.758. However, from Figure 3 it seems that there is no common support beyond propensity scores of 0.4. As such, I trim and keep propensity scores between 0.0185 and 0.37. In the end, I have a treatment group and a control group that look similar pre-intervention in India. Table 2 shows the means, standard deviations and normalized differences between Indian and US firms pre-intervention, both before and after matching.

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Insert TABLE 2 about here.

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As can be seen in Table 2, the matching procedure based on equation 5 has generated covariate balance between treated and untreated firms. This is true for the explanatory variables: Quick Ratio, Return on Assets, Tobin's Q, and Size. The general rule of thumb is that the absolute value of normalized differences should not be greater than 0.25.<sup>5</sup>

Now that I have a matched sample with greater covariate balance, one of the main conditions of a DD specification needs to be ascertained: common trends. There is no set rule for ascertaining common trends; a visual depiction usually suffices. The pre-intervention trends in ESG scores for India and the US are depicted on the left panels in Figures 4, 5 and 6. The right panels show the trends after the intervention and are included here for illustration purposes and to give a graphical and descriptive prelude to the results. Note that I have screened out data 6 months before and after the announcement date (Nov 2011) in order to remove any biases that might have resulted from whistleblowing or insider information. Along all three measures of ESG, the graphs show that the common trends condition seems to be satisfied.

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Insert FIGURE 4 about here.

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Insert FIGURE 5 about here.

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Insert FIGURE 6 about here.

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Following the propensity score matching, I then estimate the impact of the new regulation on CSP. In terms of estimation strategy, there are a few issues with regards to clustering of standard errors that can arise. The observations are at the firm level but treatment happens at country level and I have only two countries in the sample. Clustering of standard errors should, therefore, probably be at the country level but with 2 clusters, the model may not yield any significant results. A couple of econometric innovations are now allowing to draw inferences and estimate proper standard errors when the number of clusters is few. In this light, I try two things, both of which are presented in this paper. First, I run the estimation model given in equation 6 and cluster standard errors at the country level based on the wild cluster bootstrapped t-statistics method (WCBSTs) proposed by Cameron et al. (2008). The second thing I do is that I run the specification in equation 6 and cluster standard errors at the country level based on the cluster-adjusted t-statistics method (CATs) proposed by Ibragimov and Muller (2010).

$$RelESGscore_{it} = \beta_1 Treatment_i + \beta_2 Mandate_t + \beta_3 Treatment_i \times Mandate_t + \beta_4 MarketCap_{it} + \beta_5 QuickRatio_{it} + \beta_6 ROE_{it} \quad (6)$$

where  $RelESGscore_{it}$  can be either governance, social, or environmental score of company  $i$  at time  $t$ . Treatment takes a value of 0 for the US, and 1 for India. Mandate takes the value of zero before November 2011 and 1 after November 2011.  $\beta_3$  denotes the effect of treatment after the mandate, and as such is the main parameter of interest. Note that equation 6 is estimated for the sample of firms that results from the propensity score matching only. To use the weights obtained from the propensity score matching, I calculate the inverse probability weights for the average treatment effect (ATE)<sup>6</sup>:

$$IPW = \frac{Treated}{p_s} + \frac{1 - Treated}{1 - p_s} \quad (7)$$

where  $p_s$  is the propensity score that resulted from equation 5.  $IPW$  is  $\frac{1}{p_s}$  for treated firms (i.e. Indian firms) and takes a value of  $\frac{1}{1-p_s}$  for untreated firms (i.e. US firms). The higher the propensity score, the

higher the weight for untreated firms (i.e. the better they match to treated firms).

## RESULTS

### Regulation Announcement Effect

Table 3 presents the basic treatment effects of the ESG regulation on CSP based on the single-equation estimation model 6 where standard errors are clustered at the country level based on the Wild Cluster Bootstrapped T-statistics (WCBSTs) method.

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Insert TABLE 3 about here.

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Insert TABLE 4 about here.

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Column (1) in Table 3 shows that ESG regulation led to a 29.6% improvement in governance score, whereas columns (2) and (3) show that social and environmental performance went up by 19.8% and 10.1% respectively. In other words, the ESG regulation did have an overall positive impact on Corporate Social Performance. Firms responded to the mandatory call and improved their performance, supporting the soft target hypothesis that firms insure against bad press and harm caused by government, NGO, and other stakeholder monitoring through higher CSP. The improvements in governance and social dimensions of ESG are particularly high, and this is discussed further below. Note that these results are robust to different measures of size such as total assets or sales, and profitability such as return on assets. Comparing between Tables 3 and 4, we note that the level of significance of the impact of the regulatory change diminishes significantly. This is true for the governance and social elements of CSP, but not for environment which is now statistically insignificant.

### Results in light of stakeholder salience

Pairwise two sample t-tests between the coefficients of the interaction terms in each column of Tables 3 and 4 indicate that the governance improvement was significantly higher than the social improvement. The latter was higher than the improvement in environment score (considering both methods of estimating

standard errors). This goes in line with the discussion on stakeholder salience which identified governance and social actors as most salient and dominant. It seems that in the Indian context, the governance and social actors are given most importance by companies, with governance being the highest in priority. The improvement in environmental score, however, lags behind. This is akin to the stakeholder salience claims where environmental stakeholders are usually dormant, and cannot exert much pressure and influence upon the company. It could also be true that environmental performance takes more than a year to improve, as a result of which the data is not picking it up...yet. In a nutshell, however, the stakeholder salience hypothesis is supported: governance stakeholders see a bigger benefit than social stakeholders, who in turn benefit more than environmental stakeholders. T-tests or other chi-squared tests maintain that the order of improvement was governance, followed by social, and then by environment.

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Insert TABLE 5 about here.

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### **Specific elements that improved following mandatory regulation**

Another set of tests/results that could be interesting would be to look at specific elements within each aspect of ESG that improved following mandatory regulation. Given that my data considers Corporate Social Performance that can be externally verified, all elements are important, but some might be a little more relevant to certain stakeholders. In particular, consider the governance aspect of CSP. My initial measures include internal (within India) as well as external (outside India) oversight of governance matters. It is conceivable that external verification and external certification by bodies such as the UN Global Compact, the Equator Principles for Responsible Investment might be of higher interest to international stakeholders who want to invest in these Indian companies. Such certifications could be presumably more reliable. Similarly, with regards to the social aspect of CSP, Quality Management System (QMS) certification, and external verification of employee management system might interest outsiders more than data such as (Indian) press coverage of social controversies of these companies. As for environment, the procedure is the same. External certification of Environmental Management Systems might be of more interest to outsiders than Indian coverage of fines, controversies etc. Table 6 considers these ‘truly’ outside India verifications of each aspect of ESG. Results indicate that Indian companies sought outside India verification of their governance and social aspects of ESG, while they could not do the same (as quickly)

for the environment aspect. Items such as signatory to UN Global Compact, Equator Principles of Responsible Investment, Health and Safety certification, QMS certification improved. The environment improvement is statistically significant at the 10% level only, and is economically much smaller than the other two themes. There could be at least two reasons for this, and they are not easy to discern given the limitations of the data. First, Indian companies could not seek outside India certification of their environmental policies and programs in the two years after the disclosure requirement. Perhaps they need more time to get certification. Second, rather than time, it may just be another manifestation of stakeholder salience, where environmental improvement lags behind given that stakeholders are dispersed and difficult to organize and pressure the companies on such issues. Given that the announcement was in November 2011 and the data used in this analysis cover the period until the end of 2013, a two-year gap seems sufficient enough to obtain external certifications. Indian companies sought external certifications in the governance and social dimensions of CSP, and there is no plausible reason to believe why such certifications would work faster than environmental certifications. Nevertheless, more data is required to see whether over time environment picks up.

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Insert TABLE 6 about here.

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## **DISCUSSION AND CONCLUSIONS**

As Governments and Stock Exchanges move to incorporate CSR into disclosure requirements, it is important to know whether such disclosure requirements are leading to improved corporate social performance. Laws on corporate governance have already been shown to lead to improvements in the matter (Chhaochharia and Grinstein (2009)). It is important to know whether similar results can be found in the CSR sphere. The latter is a lot more complicated because there are multiple definitions and understandings of CSR (Carroll (1991)) and a lot of measures used in the CSR literature have to do with disclosed practices rather than performance which can be measured and ascertained otherwise. This paper fills this gap by restricting to measures of CSR that are more objective and that can be measured and externally verified. Further, it uses the Indian case where the Bombay Stock Exchange (BSE) announced that all listed companies must disclose their CSR practices, and allowed its constituents a moratorium period to do so.<sup>7</sup> This paper studies the announcement effect of CSR disclosure on Corporate Social

Performance, and finds that results are positive for all aspects of Environment (E), Social(S), and Governance(G). The results are strongest in the governance dimension, followed by social, and ultimately the improvement in environment is smallest.

From a public policy perspective, the results show that Governments and Stock Exchanges, i.e. both the legislative and executive branches of public policy have a role to play. They can force or incentivize companies to invest in CSR. A key result is that companies can invest even more in their social endeavours, which affect more stakeholders than governance, despite the latter being more salient to the company. The spill-over effects are significant.

From a managerial perspective, Ioannou and Serafeim (2014) find that in some countries other than India, mandated CSR disclosure led to higher CSR and ultimately higher firm value, given that external stakeholders have a higher sense of trust in the companies. While this is not the objective of this paper, it certainly points to some possibilities for future research. In particular, do Indian companies now attract more foreign and institutionalized investors such as pension funds and other ethically-driven sources? If this is case, could the benefits accrue to the Indian economy and the Indian people as whole? These are questions beyond the scope of this paper, but the main crux of this paper was to point out that public policy has a role to play in enforcing better management principles.



## Notes

<sup>1</sup>The acronyms ESG (Environment-Social-Governance) and CSP (Corporate Social Performance) are used interchangeably in this paper, since they refer to the same three-pronged measures of social responsibility.

<sup>2</sup>Mandatory CSR disclosure does indeed set some very minimal ESG requirements. The data that I am using does grade CSP, since it contains detailed information about how each firm at each point in time is performing with regards to its social responsibilities.

<sup>3</sup>Further subdivisions are possible but the data would be more limited to do so in the context of India.

<sup>4</sup>Note that if I do not use propensity score matching, the firms in India and the United States look too dissimilar to each other on average. As a result, the DD design becomes biased since the counterfactual group does not represent a valid counterfactual.

<sup>5</sup>Size is slightly bigger by 0.002.

<sup>6</sup>I calculate the ATE rather than the average treatment on the treated effect because I have two countries, where one of them mandated CSR disclosure on all firms (in my sample) in its jurisdiction. There is no selection bias where certain firms had a higher probability of being treated than others.

<sup>7</sup>Note that in 2015, the Indian Company Act mandated all companies earning above a certain threshold of income to spend at least 2% on CSR initiatives. This paper predates the latest intervention.

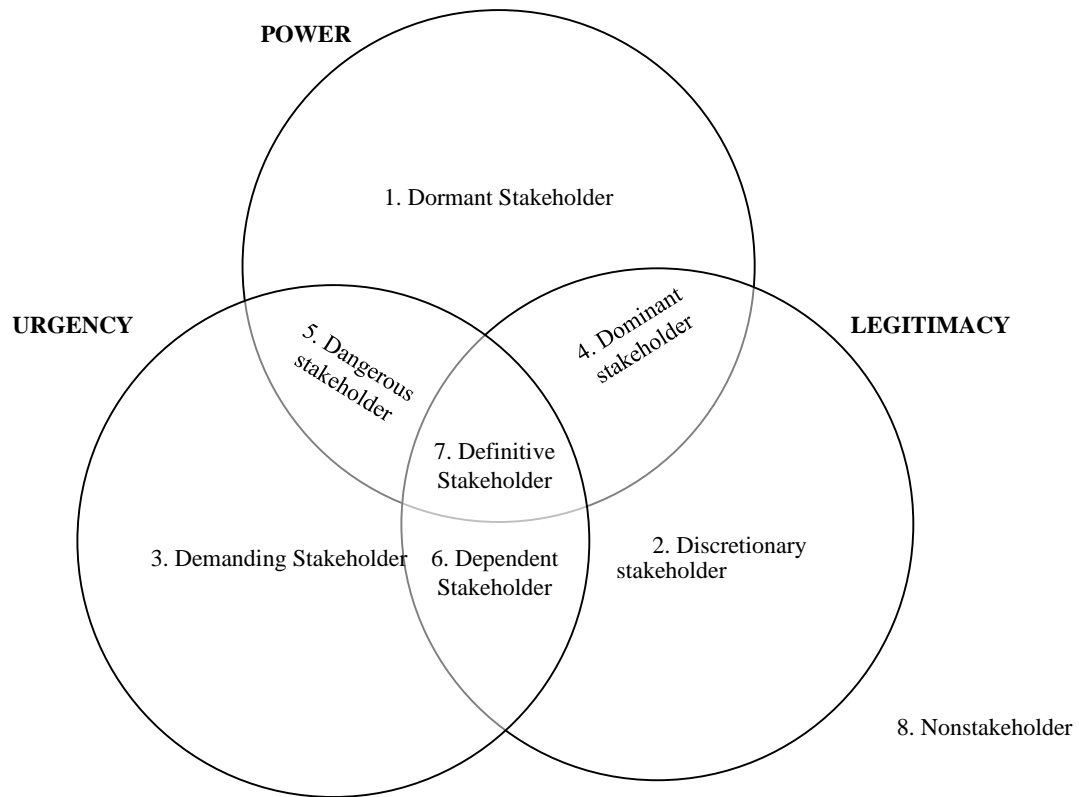
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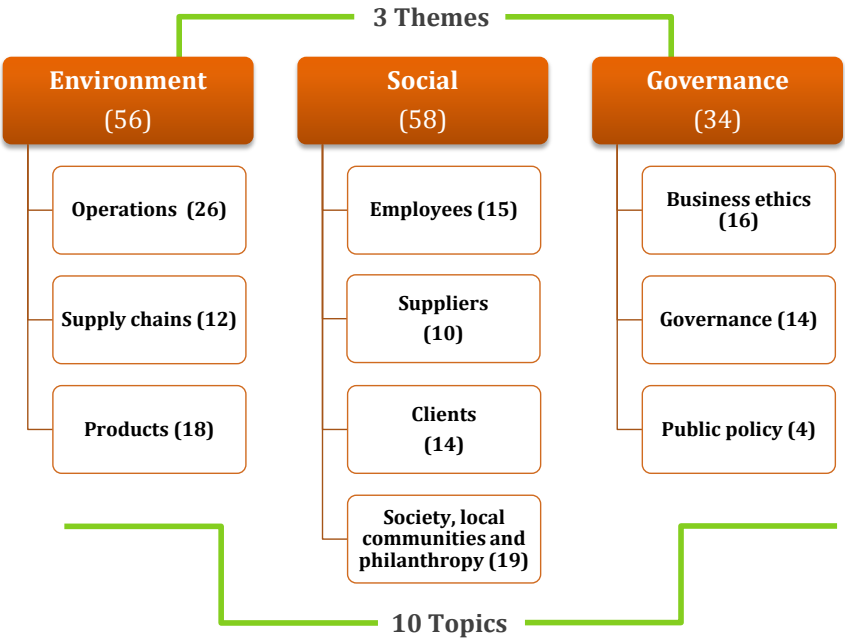
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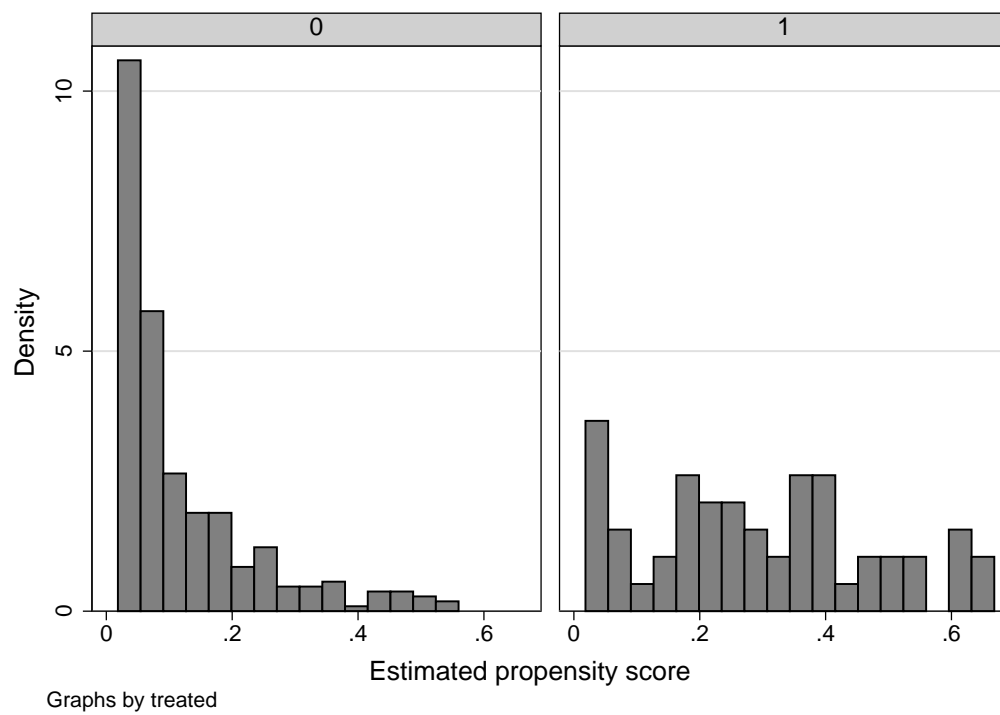


**FIGURE 1:** Stakeholder Typology: adapted from (Mitchell et al., 1997, p.874)

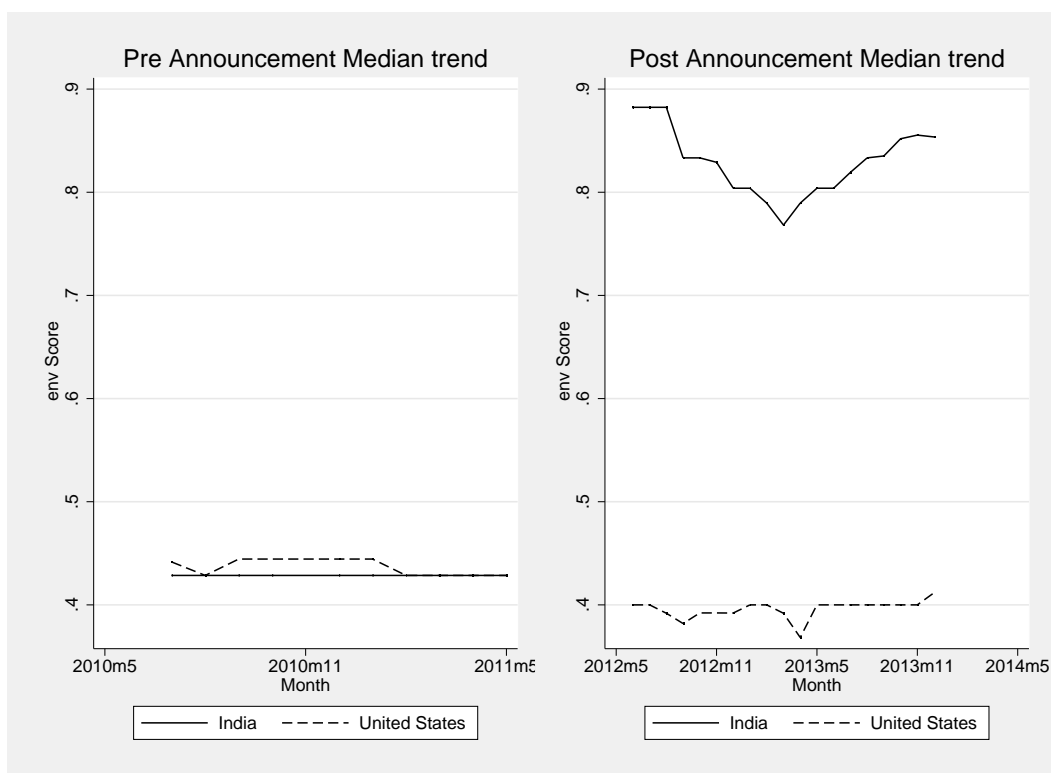
**FIGURE 2:** ESG categories from SustainAlytics



**FIGURE 3:** Histogram of propensity scores for comparison (0) and treatment (1) groups

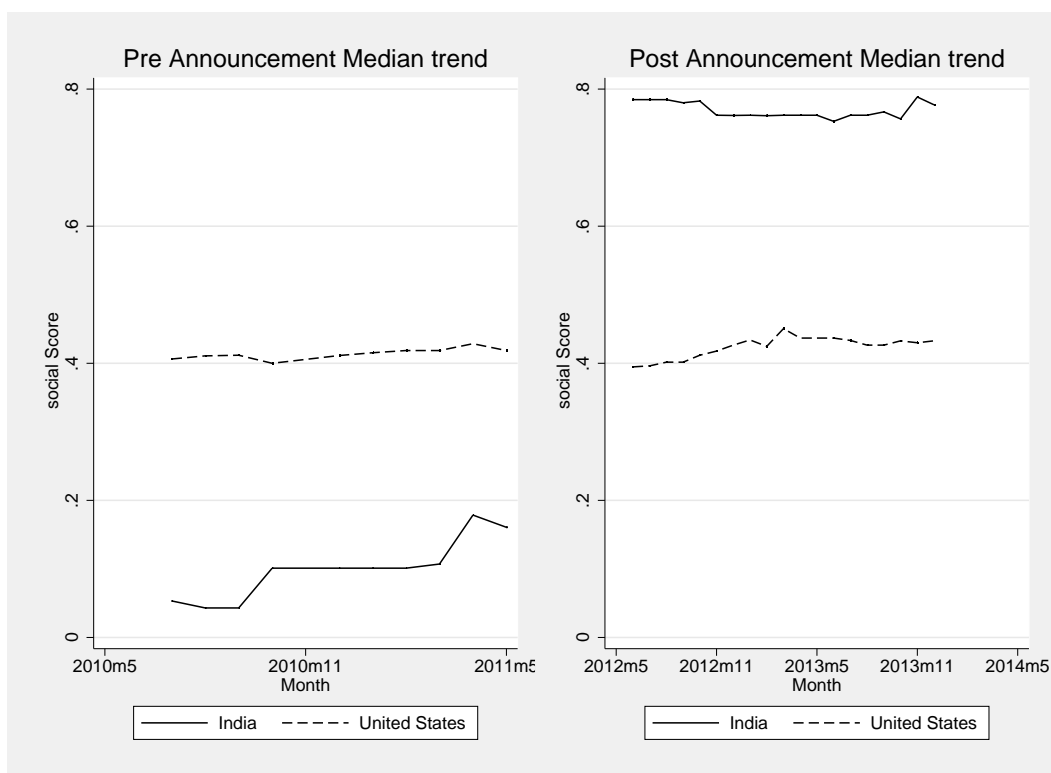


**FIGURE 4:** Pre- and post-announcement trends in Environment Score

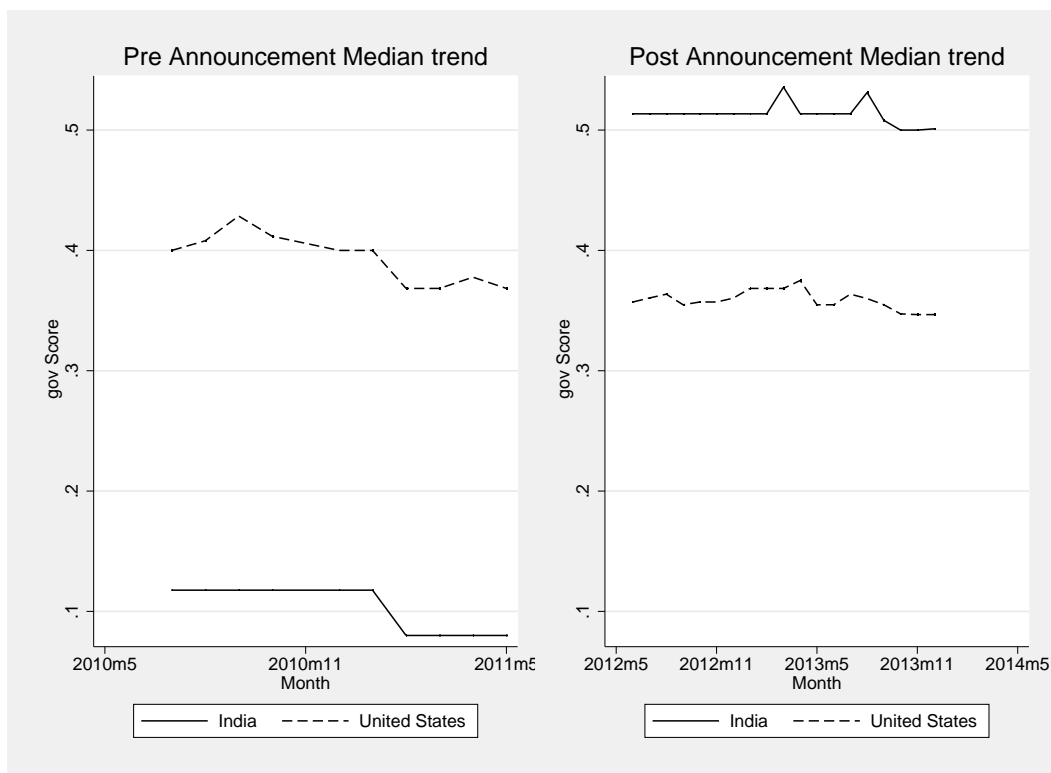




**FIGURE 5:** Pre- and post-announcement trends in Social Score



**FIGURE 6:** Pre- and post-announcement trends in Governance Score



**TABLE 1:** Propensity score matching estimates based on a probit model

	Treatment
Quick Ratio	−3.538*** (0.654)
Return on Assets	−0.0399* (0.0166)
Quick Ratio x ROA	0.136*** (0.0274)
Tobin’s Q	0.253** (0.0923)
Size (market value)	−0.0459 (0.0818)
Governance Score	0.583 (0.306)
Social Score	1.750*** (0.368)
Environment Score	0.302 (0.332)
Constant	−2.018** (0.776)
Observations	628
Pseudo $R^2$	0.315

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**TABLE 2:** Means of covariates used in the propensity score matching and differences between treated and matched control group

	India	United States	Normalized differences
<b>Before Matching</b>			
Quick Ratio	0.200 (0.654)	0.560 (0.807)	−0.346
Return on Assets	10.165 (8.656)	8.126 (8.022)	0.173
Quick Ratio x Return on Assets	3.533 (15.801)	3.666 (13.466)	−0.0546
Tobin's Q	2.360 (1.811)	1.966 (1.153)	0.184
Size (market value)	8.603 (1.035)	8.762 (1.203)	−0.100
<b>After Matching</b>			
Quick Ratio	0.274 (0.805)	0.266 (0.275)	0.00963
Return on Assets	9.663 (8.256)	8.540 (7.816)	0.0988
Quick Ratio x Return on Assets	4.939 (19.553)	3.213 (6.371)	0.0840
Tobin's Q	2.113 (1.321)	2.011 (1.177)	0.0578
Size (market value)	8.436 (0.920)	8.813 (1.179)	−0.252

Standard deviations in parentheses

**TABLE 3:** Impact of CSR regulation on Corporate Social Performance when standard errors are clustered at the country level based on the Wild Cluster Bootstrapped T-statistics (WCBSTs) method

	Governance	Social	Environment
Treatment	0.0901*** (0.0205)	0.109*** (0.0167)	0.496*** (0.0196)
Mandate	−0.0256** (0.00927)	−0.000546 (0.00755)	0.0119 (0.00886)
Treatment x Mandate	0.296*** (0.0157)	0.198*** (0.0128)	0.101*** (0.0150)
Quick Ratio	0.122*** (0.00604)	0.106*** (0.00492)	0.0496*** (0.00577)
Tobin's Q	−0.0430*** (0.00294)	−0.0447*** (0.00239)	0.00714* (0.00281)
Size (Market Value)	−0.000735 (0.00289)	0.00539* (0.00235)	−0.0540*** (0.00276)
Return on Equity	−0.00000642 (0.00000926)	0.0000401*** (0.00000755)	−0.00000247 (0.00000885)
Observations	7302	7302	7302
R <sup>2</sup>	0.280	0.324	0.315

Standard errors at the country level based on Wild Cluster Bootstrapped T-statistics (WCBSTs) in parentheses

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**TABLE 4:** Impact of CSR regulation on Corporate Social Performance when standard errors are clustered at the country level based on the Wild Cluster-Adjusted T-statistics (CATs) method

	Governance	Social	Environment
Treatment	0.0901 (0.0442)	0.109 (0.224)	0.496 <sup>+</sup> (0.0631)
Mandate	−0.0256 (0.0278)	−0.000546 (0.0188)	0.0119 (0.0208)
Treatment x Mandate	0.296** (0.000626)	0.198* (0.0132)	0.101 (0.0218)
Quick Ratio	0.122 (0.0759)	0.106 (0.0617)	0.0496 (0.0288)
Tobin's Q	−0.0430 (0.0225)	−0.0447 (0.0133)	0.00714 (0.0132)
Size (Market Value)	−0.000735 (0.000783)	0.00539 (0.0307)	−0.0540 (0.0157)
Return on Equity	−0.00000642 (0.00000656)	0.0000401 (0.00000690)	−0.00000247 (0.000000937)
Observations	7302	7302	7302
R <sup>2</sup>	0.280	0.324	0.315

Standard errors at the country level based on Cluster-Adjusted T-statistics (CATs) in parentheses

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**TABLE 5:** T-tests comparing differentiated response to Governance, Social, and Environment CSP

	T-statistics std. errors based on Wild Cluster Bootstrapped t-statistics	T-statistics std. errors based on Cluster-Adjusted t-statistics
Governance MINUS Social	4.838	7.416
Governance MINUS Environment	8.980	8.941
Social MINUS Environment	4.919	3.806

**TABLE 6:** Impact of CSR regulation on specific ‘outside India verified’ elements of Governance, Social, and Environment when standard errors are clustered at the country level based on Wild Cluster Bootstrapped T-statistics (WCBSTs)

	Governance	Social	Environment
Treated	0.214*** (0.0225)	0.283*** (0.0199)	0.639*** (0.0211)
Mandate	−0.0307*** (0.00898)	0.0203* (0.00793)	0.0191* (0.00841)
Treatment x Mandate	0.230*** (0.0187)	0.271*** (0.0165)	0.0309+ (0.0175)
Quick Ratio	0.133*** (0.00525)	0.145*** (0.00463)	0.0336*** (0.00491)
Tobin’s Q	−0.0477*** (0.00309)	−0.00209 (0.00273)	0.0277*** (0.00289)
Size (Market Value)	−0.0140*** (0.00282)	−0.0369*** (0.00249)	−0.0629*** (0.00264)
Return on Equity	−0.00000742 (0.00000974)	0.00000494 (0.00000860)	−0.0000408*** (0.00000912)
Observations	7302	7302	7302
R <sup>2</sup>	0.282	0.449	0.399

Standard errors at the country level based on Wild Cluster Bootstrapped T-statistics (WCBSTs) in parentheses

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$